

CLAIMS

1. A digital printing machine comprising:

a rigid frame;

5 a first linear motion X axis stage mounted on said frame;

a second linear motion X axis stage mounted on said frame parallel to said first axis stage, and arranged for operation independently of said first axis stage;

a printing table assembly movable on each said linear X axis stage;

10 a linear motion Y axis stage mounted on said frame perpendicular to said linear X axis stages, above said printing table assemblies; and

an array of inkjet nozzles mounted on said linear Y axis stage for linear motion perpendicular to said X axis stage.

2. The printing machine of claim 1, wherein each said printing table
15 assembly comprises a media-holding plate and an openable cover pivotally coupled to said media-holding plate for holding said media firmly against said plate.

3. The printing machine according to claim 2, wherein said media-holding plate includes a raised portion, and said cover includes a window of the same
20 shape and slightly larger than said raised portion.

4. The printing machine according to claim 1, wherein said linear motion X axis stage is a linear motor driven stage.

25 5. The printing machine according to claim 1, wherein said linear motion Y axis stage is a linear motor driven stage.

6. The printing machine according to claim 1, where at least part of each said printing table assembly is a vacuum table.

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7. The printing machine according to claim 1, wherein said inkjet nozzles include drop-on-demand piezoelectric inkjet nozzles.

8. The printing machine according to claim 1, wherein said inkjet nozzles include continuous piezoelectric inkjet nozzles.

9. The printing machine according to claim 1, further comprising a curing unit located above each said printing table assembly and arranged to cure ink on media on said printing table assembly.

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10. The printing machine according to claim 9, wherein said curing unit is an infrared system.

11. The printing machine according to claim 9, wherein said curing unit is a hot air blowing unit.

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12. The printing machine according to claim 1, further comprising an ironing unit located above each said printing table assembly and arranged to iron media on said printing table assembly.

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13. A printing machine comprising:

a rigid frame;

a linear motion X axis stage mounted on said frame;

a printing table assembly movable on said linear X axis stage;

25 a linear motion Y axis stage mounted on said frame perpendicular to said linear X axis stage, above said printing table assembly;

an array of inkjet nozzles mounted on said linear Y axis stage for linear motion perpendicular to said X axis stage;

a curing unit located above said printing table assembly and arranged to cure ink on media on said printing assembly; and

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an ironing unit located above said printing table assembly and arranged to iron media on said printing assembly before printing thereon.

14. The printing machine according to claim 13, wherein said curing unit is
5 an infrared system.

15. The printing machine according to claim 13, wherein said curing unit is a hot air blowing unit.

10 16. The printing machine according to claim 13, wherein said printing table assembly comprises a media-holding plate and an openable cover pivotally coupled to said media-holding plate for holding said media firmly against said plate

15 17. The printing machine according to claim 16, wherein said media-holding plate includes a raised portion, and said cover includes a window of the same shape and slightly larger than said raised portion.

18. The printing machine according to claim 13, where at least part of said printing table assembly is a vacuum table.

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19. The printing machine according to claim 13, wherein said printing table assembly is a flattened plate.

20. The printing machine according to claim 13, wherein said inkjet
25 nozzles include drop-on-demand piezoelectric inkjet nozzles.

21. The printing machine according to claim 13, wherein said inkjet nozzles include continuous piezoelectric inkjet nozzles.

30 22. A printing machine comprising:

a rigid frame;
a linear motion X axis stage base mounted on said frame;
a first printing table assembly movable on said linear X axis stage base;
a second printing table assembly movable on said linear X axis stage base
5 independently of said first printing table assembly;
a linear motion Y axis stage mounted on said frame perpendicular to said
linear X axis stages, above said printing table assemblies; and
an array of inkjet nozzles mounted on said linear Y axis stage for linear
motion perpendicular to said X axis stage.

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23. The printing machine of claim 22, further comprising an ironing unit
located above said printing table assemblies and arranged to iron media on said
printing table assemblies.

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24. The printing machine according to claim 22, further comprising a
curing unit located above said printing table assemblies and arranged to cure ink on
media on said printing table assemblies.

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25. The printing machine according to claim 24, wherein said curing unit is
an infrared system.

26. The printing machine according to claim 24, wherein said curing unit is
a hot air blower.

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27. The printing machine of claim 22, wherein said printing table assembly
comprises a media-holding plate and an openable cover pivotally coupled to said
media-holding plate for holding said media firmly against said plate.

28. The printing machine of claim 27, wherein said media-holding plate includes a raised portion, and said cover includes a window of the same shape and slightly larger than said raised portion.

5 29. The printing machine according to claim 22, where at least part of each printing table assembly is a vacuum table.

30. The printing machine according to claim 22, wherein said inkjet nozzles include drop-on-demand piezoelectric inkjet nozzles.

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31. The printing machine according to claim 22, wherein said inkjet nozzles include continuous piezoelectric inkjet nozzles.